

# AMERICAN SOCIETY FOR TESTING MATERIALS



## ~ BULLETIN ~

ENGINEERS' CLUB BUILDING.

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PHILADELPHIA, PA.

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### Twenty-fifth Annual Meeting Largest in Society's History

THE Twenty-fifth Annual Meeting of the Society held at Chalfonte-Haddon Hall, Atlantic City, N. J., June 27-30, 1922, was a most enjoyable and successful one and by far the largest in our history—in every way befitting the meeting marking a quarter century of accomplishment by the Society. There were 626 members in attendance or represented, 116 guests and 172 ladies, a total of 914, which is about 50 more than the largest previous meeting.

The program of the meeting was larger than ever before and necessitated the scheduling of twelve instead of the usual ten sessions. This was made possible without extending the meeting to Saturday by holding simultaneous sessions on Thursday evening and Friday morning. Notwithstanding the number of committee and sub-committee meetings, of which there are over 70, and the competition of the attractions of such a seashore resort as Atlantic City, the various sessions, including the simultaneous ones, were well attended.

#### New Officers Elected

The ballots for officers were canvassed at the beginning of the meeting and at the close of the first session the President announced the election of the following officers:

##### President (for one year):

George K. Burgess, Physicist and Chief of Division of Metallurgy, Bureau of Standards, Washington, D. C.

##### Vice-President (for two years):

William H. Walker, Consulting Chemical Engineer, Boston, Mass.

##### Members of Executive Committee (for two years):

D. M. Buck, Metallurgical Engineer, American Sheet and Tin Plate Co., Pittsburgh, Pa.

W. M. Corse, Chairman, Division of Research Extension, National Research Council, Washington, D. C.

W. K. Hatt, Professor of Civil Engineering and Director, Laboratory for Testing Materials, Purdue University, Lafayette, Ind.

J. R. Onderdonk, Engineer of Tests, Baltimore and Ohio Railroad, Baltimore, Md.

Past-Presidents Stevenson and Clamer escorted the President-elect to the chair. Doctor Burgess expressed his appreciation of the honor conferred upon him by his election to the Presidency of the Society, and in pledging his endeavor to uphold the ideals of the Society suggested as a program for the coming year the desirability of making our standards more generally applicable and mentioned three opportunities that lie before us: the adoption of our standards as American Standards by submission to the American Engineering Standards Committee, the extension of the use of our standards for export trade, and making our standards available for

the use of the Government, which has recently organized a Federal Specifications Board for the purpose of unifying specifications for Government purchases.

#### Presidential Address

The Tuesday evening session was devoted to the presentation of the Presidential Address and the reports of administrative committees. Before calling for the regular order of business the presiding officer, Past-President A. A. Stevenson, announced the recent death of two Past-Presidents of the Society, Henry M. Howe and Alfred W. Gibbs, and the death of a former Vice-President, S. S. Voorhees. Resolutions adopted by the Executive Committee were read, after which the meeting rose in silent memory of these past officers.

The annual Presidential Address by the retiring President, C. D. Young, entitled "A Quarter Century of Progress" was, as its title implies, devoted to a review of the growth and accomplishments of the Society marked by this its Twenty-fifth Annual Meeting.

#### Action on Committee Reports

Reports from thirty-four of our forty standing committees, the annual report of the Executive Committee and reports from three joint committees were acted upon at the meeting. These reports in the aggregate marked substantial progress in our work. In addition to describing important investigations in many fields, the recommendations finally acted upon have resulted in the acceptance for publication as tentative of revisions in 22 existing standards, the reference to letter ballot for adoption as standard of twelve tentative standards and one revision of an existing standard, the acceptance of 44 proposed new tentative standards, and the approval of recommended revisions in 34 existing tentative standards. Upon favorable action by the letter ballot vote referred to, the Society will have on its records 172 standards and 163 tentative standards.

The action of the meeting with respect to the committee reports is set forth in detail in the accompanying Summary of the Proceedings. With the exceptions mentioned below and with certain other revisions of a minor character, all of which are referred to in the Summary of the Proceedings, the committee reports in the form preprinted were adopted and ordered published in the Proceedings:

Committee A-1 on Steel withdrew the proposed revisions in the tables of permissible variations and over-weights of plates applying to six standard and two tentative specifications, because of lack of agreement in the committee regarding the advisability of submitting the proposed revisions at this time.

(Continued on page 3.)

# A.S.T.M. BULLETIN

Issued January, April, July and October  
by the

AMERICAN SOCIETY FOR TESTING MATERIALS  
Engineers' Club Building, 1315 Spruce St., Philadelphia, Pa.

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(Term Expiring in 1924)

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(Term Expiring in 1924)

C. D. YOUNG  
(Term Expiring in 1925)

*Assistant Treasurer*  
J. K. RITTENHOUSE

Number 6

July 31, 1922

## Looking Ahead

The Twenty-fifth Annual Meeting has brought to a close what is undoubtedly the most successful year in the history of the Society, measured by our committee work, the value of our technical papers and discussions, and the size and interest of the meeting itself. In his Annual Address, the retiring President, C. D. Young, reviewed the Society's accomplishments during the quarter century of our existence and showed by selected examples how high and responsible a place our Society has attained in the engineering and industrial life of this country and how the influence of our work is felt all over the world.

It is not too soon to face the problems that will come in the next twenty-five years of our life. For the immediately ensuing year our committee work, now so firmly established, will proceed actively under the guidance of the committee officers. The Committee on Papers, with the success of this meeting as an inspiration, will plan to emphasize technical papers and discussions quite as comprehensively for the next annual meeting. The new method of distributing preprints, announced in the last BULLETIN, will require the working out of some administrative details. Beyond these immediate and in a sense routine problems, however, lie problems of a more broad and fundamental nature. Of first importance, perhaps, is the stimulation of study and research in the properties of engineering materials, both by individual members and through our committee organization. Executive Committee reports for two years have discussed this matter. Unquestionably the major efforts of our Society during the past two decades have been directed towards standardization of specifications and tests for materials, a field that has urgently needed our attention. In some directions at least our committees have now fairly well completed their work of standardization, and while prepared to keep their standards up to date and extend their efforts in new directions from time to time, they may well consider the advisability of studying more intensively the properties of the materials that fall within their scope. In a word, it is believed that without decreasing in the slightest the efforts of the past twenty-five years in the standardization of materials, a work of vital importance to our Society in the next twenty-five years is the development by organized

society action of the function described in our Charter as the "promotion of knowledge of engineering materials."

Of major importance, also, is the program suggested by our new President, Dr. George K. Burgess, referred to on the first page of this issue, which involves our relation with the broad standardization movement that finds its expression in the engineering field in the activities of the American Engineering Standards Committee and the Division of Simplified Practice of the U. S. Department of Commerce. With both of these groups our Society is in intimate contact.

A feature of our standardization work of growing importance is the harmonizing of various methods of testing and nomenclature developed by our committees. Committees E-1 and E-8 have laid the foundation for this work and substantial progress will be made this year. As an illustration, the writing of a comprehensive method of testing metals, now well under way in Committee E-1, will not only be in itself an accomplishment of much value but at the same time will make it possible to remove from a large majority of our specifications for metals much detailed description of methods and specimens, making the specifications themselves more concise—something much to be desired—and resulting in the end in a substantial saving of printing costs.

The publication of the Book of A.S.T.M. Standards at reduced cost without sacrifice of convenience and usefulness to the members, is another problem of importance. Such decreases in the size of specifications as mentioned in the preceding paragraph will help materially. The Committee on Papers is studying a plan of issuing this volume in sections, or in loose-leaf binding so as to eliminate the necessity of completely reprinting it every three years.

The matter of rotation of annual meetings and the suggestion of holding two meetings a year are intimately concerned with Society welfare.

These are the more important problems that must be successfully met if the Society is to grow and expand in usefulness during the next quarter century as it has in that which has passed. All are receiving consideration in the Executive Committee and they merit the careful thought of every member who has the welfare of the Society at heart.

## Our Membership

The membership of the Society is now 3055. So far this year there have been acquired 268 new members, compared with 259 for the corresponding period of last year.

The Executive Committee firmly believes in the value of having our members take an active interest in the growth of the Society and point out the advantages of membership to their friends and business associates; and from time to time it appeals to the members to make special efforts to secure new members in this way. With this BULLETIN, therefore, there is sent to each member an application blank which he is asked to place in the hands of some prospective member who is presumably interested in the Society and its activities. In doing so, mention that new members joining now and paying the membership dues (\$15) for the entire year will receive the Book of A.S.T.M. Standards with 1922 Supplement, the Year Book and the current Proceedings and, so long as the supply lasts, copies of preprints of reports and papers presented at the recent meeting. Members joining now have the privilege under the By-laws of paying one-half of the annual dues, and in this case they will receive all of the above-mentioned publications except the Proceedings.

The healthy growth of membership is necessary to our continued activity and success. By taking an active interest in this phase of the Society's development each member can contribute materially to the welfare of the Society and help make it an even greater force than it is to-day.

**Won't you get one new member NOW? USE THE APPLICATION BLANK AT ONCE.**



## Twenty-fifth Annual Meeting

(Continued from page 1.)

Committee C-3 on Brick withdrew proposed Tentative Specifications for Concrete Building Brick, explaining that many members of the committee had felt there were hardly sufficient data before them to pass favorably on these specifications.

Committee C-4 on Clay and Cement Sewer Pipe presented an addendum to its report submitting proposed revisions in the Standard Specifications for Clay Sewer Pipe (C 13-20) and for Cement-Concrete Sewer Pipe (C 14-20), agreed upon by unanimous action at a meeting held during the annual meeting.

Committee C-7 on Lime submitted an appendix to its report in the form of discussions on the effect of hydrated lime in portland cement concrete.

Committee C-11 on Gypsum offered an appendix to its report in the form of a paper entitled "Gypsum Plaster and Wall Board," with the explanation that it had furnished the basis for revisions in certain of the committee's specifications.

Committee D-1 on Preservative Coatings for Structural Materials withdrew the report of its Sub-Committee on Specifications for Pigments, including proposed revisions in existing specifications and proposed new specifications for pigments.

Committee D-2 on Petroleum Products and Lubricants withdrew a proposed revision of the Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosene and Similar Petroleum Products (D 86-21 T), comprising the omission of the requirement that the bulb of the distillation thermometer shall be covered with absorbent cotton.

Committee D-15 on Thermometers withdrew its entire report as preprinted for the reason that the committee had found it impossible to include at this time certain essential data in three proposed tentative specifications for partial-immersion thermometers upon which it had been engaged during the past year.

### Technical Papers

At no meeting within recent years have the technical papers been of greater interest and value and brought out so much lively and interesting discussion. Discussions on the subjects of Fatigue, Corrosion, Foundry Pig Iron, Steel Castings, Coal and Inspection of Concrete were lively and sustained. The session devoted to the Symposium on Impact Testing of Materials was one of the most interesting of the entire meeting, and that on Preservative Coatings brought out spirited discussion of the many papers on this subject.

### Entertainment Features

The usual entertainment features were ably handled by the Entertainment Committee under the chairmanship of E. D. Boyer. The dance and smoker following the business session on Tuesday evening was very successful and well attended. On Friday afternoon, which was devoted to recreation purposes, the annual Golf and Tennis Tournaments were held. A new feature this year was the establishment of a permanent A.S.T.M. Championship Tennis Cup offered by Committee D-1 on Preservative Coatings. Other golf and tennis prizes were offered by various standing committees. The names of the winners of these prizes are given in the Summary of the Proceedings.

### Preprints of Reports and Papers

A number of reports and papers that were available in printed form at the annual meeting were not ready in time for distribution in advance of the meeting. Believing that many members will desire to obtain advance copies of these reports and papers, an extra supply was printed, which is now available for distribution on request. These reports and papers are listed on the accompanying return blank and members are asked to indicate by a cross those preprints they desire and return the sheet to the Secretary-Treasurer, who will forward copies so long as the supply lasts.

### Discussions of Reports and Papers

Members who desire may contribute discussions of reports and papers "by letter" until September 1, it being understood that proof of the complete discussion will be furnished to each committee or author in due course so that the discussion may be "closed" if desired.

## Matters Referred to Letter Ballot

Fourteen items were by action of the annual meeting referred to letter ballot vote of the membership, as follows:

1. An amendment of Article VI, Section 1, of the By-laws recommended by the Executive Committee, as given in the Summary of the Proceedings, page 7.

2. A revision of the Standard Method of Test for Softening Point of Bituminous Materials Other than Tar Products, Ring-and-Ball Method (D 36-21), recommended by Committee D-4.

Adoption of the following tentative standards as standard:

*Tentative Specifications for:*

3. Nickel (B 39-21 T), revised as recommended by Committee B-2.

4. Brass Ingot Metal, Graded and Ungraded, for Sand Castings (B 30-21 T), revised as recommended by Committee B-2.

5. Calcined Gypsum (C 23-21 T), revised as recommended by Committee C-11.

6. Block for Granite Block Pavements (D 59-19 T), revised as recommended by Committee D-4.

*Tentative Methods of:*

7. Test for Voids in Fine Aggregate for Concrete (C 30-21 T), recommended by Committee C-9.

8. Test for Organic Impurities in Sands for Concrete (C 40-21 T), recommended by Committee C-9.

9. Test for Sieve Analysis of Aggregates for Concrete (C 41-21 T), recommended by Committee C-9.

10. Sampling Stone, Slag, Gravel, Sand and Stone-Block for Use as Highway Materials, including Some Material Survey Methods (D 75-20 T), recommended by Committee D-4.

11. Test for Flash Point by Means of the Pensky-Martens Closed Tester (D 93-21 T), revised as recommended by Committee D-2.

12. Test for Melting Point of Paraffin Wax (D 87-21 T), recommended by Committee D-2.

13. Testing Molded Insulating Materials (D 48-21 T), recommended by Committee D-9.

*Tentative Definitions of:*

14. Terms Relating to Paint Specifications (D 16-21 T), revised as recommended by Committee D-1.

A blank ballot for the vote on these fourteen items will be sent to each member of the Society by first-class mail two days after the mailing of this BULLETIN is completed. The ballot will be canvassed on August 25, 1922.

## Forthcoming Society Publications

**Supplement to 1921 Book of Standards.**—This supplement, of 54 pages, issued in paper binding, will contain the twelve new standards referred to letter ballot vote by action of the recent annual meeting.

**Year Book.**—The 1922 Year Book, about 310 pages, paper binding, will contain the list of members, with geographical distribution, list and personnel of standing committees and their sub-committees, list of standards and tentative standards, and other information.

The two volumes above mentioned will be ready for distribution to all members in good standing about September 15.

**Book of A.S.T.M. Tentative Standards.**—The Society will again publish a volume containing all of the tentative standards of the Society in their latest revised form. The current Proceedings will contain the new and revised tentative standards, but many members find it a convenience to have the complete set of tentative standards in one cover. Further announcement of this publication will be made and orders will be solicited in a circular letter soon to be issued.

**Proceedings.**—The Proceedings of the recent Annual Meeting will be published in two parts, designated Vol. 22, Parts I and II. Part I will contain the committee reports and new and revised tentative standards. Part II will contain the technical papers with discussions. Every effort will be made to complete the distribution to members in good standing early in December.

## A.S.T.M. Committee Activities

*Space in the BULLETIN is reserved for items of interest about committee activities. Officers of committees are invited to prepare information of suitable character for publication. A schedule of committee meetings for three months in advance will be published in each issue.*

### Schedule of Committee Meetings

DATE	COMMITTEE	PLACE
September 6....	D-5 on Coal and Coke....	Pittsburgh
October 3.....	D-1 on Preservative Coatings for Structural Materials.....	Philadelphia
October 6.....	A-1 on Steel.....	Philadelphia
October 7.....	A-4 on Heat Treatment of Iron and Steel.....	Philadelphia
October 10.....	A-5 on Corrosion of Iron and Steel.....	Pittsburgh
October 18.....	A-2 on Wrought Iron.....	Philadelphia
October 27-28...	D-13 on Textile Materials...	New Bedford
October .....	B-2 on Non-ferrous Metals and Alloys.....	Philadelphia
October .....	E-4 on Metallography.....	
November .....	C-3 on Brick.....	Troy
November .....	D-4 on Road and Paving Materials.....	
November 10...	D-9 on Insulating Materials	New York
November 14...	D-11 on Rubber Products	New York

**Committee A-1 on Steel** at the recent annual meeting re-elected F. M. Waring as chairman and elected G. H. Woodroffe, Mechanical and Metallurgical Engineer, Parkesburg Iron Co., as secretary.

A preliminary draft of specifications for carbon tool steel has been prepared and is being studied by a special Sub-Committee on Carbon Tool Steel.

**Committee A-3 on Cast Iron**, as the first step in revising the present Standard Specifications for Foundry Pig Iron, submitted at the recent annual meeting Tentative Specifications for Foundry Pig Iron. These will be reviewed during the year by the Sub-Committee on Pig Iron which is being suitably enlarged to include representatives of malleable iron and steel foundries.

**Committee A-5 on Corrosion of Iron and Steel** elected the following officers to serve for the next two years: Chairman, J. H. Gibboney; Vice-Chairmen, H. E. Smith and J. A. Aupperle; Secretary, D. M. Buck.

**Committee A-8 on Magnetic Analysis** has elected F. P. Fahy, Civil Engineer, to the chairmanship.

**Committee B-3 on Corrosion of Non-Ferrous Metals** outlined at the recent annual meeting a comprehensive scheme for carrying on the work of the committee. The first endeavor of the committee will be an attempt to standardize corrosion tests, their accuracy and their necessary conditions. To develop this information a questionnaire will be sent out to all members of the committee and to others competent in the field, the aim being to determine those conditions which are essential to the execution of corrosion tests. It is hoped that as a result of this questionnaire tentative methods of corrosion tests may be formulated.

**Committee C-1 on Cement** at the recent annual meeting elected R. B. Young, Civil Engineer, Hydro-Electric Power Commission of Toronto, as secretary.

**Committee C-5 on Fireproofing** is requesting that the Executive Committee of the Society apply to the American Engineering Standards Committee for the organization of a sectional committee to consider the Society's Standard Specifications for Fire Tests, which have been approved as "Tentative American Standard" by the Standards Committee, with revisions proposed by Committee C-5 at the annual meeting.

**Committee C-6 on Drain Tile**, to carry on its work of reducing the number of standard sizes, has formed a sub-committee on Standard Sizes.

At the meeting held during the recent annual meeting, G. W. Pickels, Assistant Professor of Civil Engineering, University of Illinois, was elected secretary.

**Committee C-7 on Lime** has re-elected H. C. Berry as chairman, and has elected G. W. Hutchinson, Assistant Engineer, North Carolina State Highway Commission, as secretary.

**Committee C-9 on Concrete and Concrete Aggregates** is organizing a Sub-Committee on Conditions Affecting the Durability of Concrete in Structures to carry on a study of the causes of deterioration of concrete. It is also preparing to organize a sub-committee on elastic properties of concrete.

**Committee D-2 on Petroleum Products and Lubricants** has elected Van H. Manning, Director of Research, American Petroleum Institute, as secretary to succeed K. G. Mackenzie, who has been elected vice-chairman.

**Committee D-4 on Road and Paving Materials** has elected F. P. Smith, Consulting Engineer, as its chairman. Prévost Hubbard was re-elected as secretary.

**Committee D-5 on Coal and Committee D-6 on Coke**, upon their recommendation, have been consolidated into one standing Committee on Coal and Coke. This action was taken in view of the very similar nature of the work covered by the two committees and in view of the fact that their personnel was almost identical. The newly elected officers of the combined committee are as follows: Chairman, A. C. Fieldner; Vice-Chairman, H. C. Porter; Secretary, W. A. Selvig.

Work is now being conducted toward developing a standard method for making size tests of pulverized coal. The committee is also studying the various methods used in different laboratories for determining the porosity of coke. Different cokes are also being studied in reference to their combustibility and the rate of their reaction with CO<sub>2</sub>. An electric furnace method for the determination of fusibility of coal ash is being compared with the standard gas furnace method.

**Committee D-8 on Waterproofing Materials** has elected Samuel T. Wagner, Chief Engineer, Philadelphia and Reading Railway Co., as chairman and Prévost Hubbard as secretary.

**Committee D-13 on Textile Materials** has elected R. T. Fisher, Assistant Secretary in Charge of Research, National Association of Cotton Manufacturers, to serve as secretary.

### List of Publications

**Proceedings, Volume 21 (1921).**—The proceedings are issued in one volume of 1196 pages. The volume contains the committee reports with discussions, new and revised tentative standards and the technical papers with discussions. Prices to non-members: paper \$10, cloth \$11, half-leather \$12.50. To members for extra copies: \$6, \$7 and \$8.50, respectively.

**Book of A.S.T.M. Standards.**—Issued triennially. The 1921 edition (890 pp.) contains 160 standards adopted by the Society. Prices to non-members: cloth \$10, half-leather \$11.50. To members for extra copies: \$7 and \$8.50.

**Book of A.S.T.M. Tentative Standards.**—The 1921 edition (518 pp.) contains 127 tentative standards issued by the Society. Prices to non-members: paper \$5, cloth \$6. To members: \$3.50 and \$4.50.

**Separate Standards and Tentative Standards.**—Separate copies of all standards and tentative standards are available. The price is 25 cents for a single copy and in lots up to 50. Larger quantities are furnished at lower prices.

**Complete Sets of Proceedings** from 1902 to 1921, inclusive (with the exception of Vols. I and III). Special prices are made to members for extra copies and for complete sets. Binding in paper, cloth or half-leather.

**Miscellaneous.**—Volume of annual reports of Committee D-1 on Preservative Coatings for Structural Materials for the years 1903-1914 (567 pp.). Price, \$5.00 in cloth.

Progress report of Joint Committee on Specifications for Concrete and Reinforced Concrete (1921). Price, \$1.50.

Inquiries and orders should be directed to:

AMERICAN SOCIETY FOR TESTING MATERIALS  
1315 Spruce Street, Philadelphia